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BULLETIN
OF THE
TORREY BOTANICAL CLUB.

Vol. XV.] New York, September 1, 1888. [No. 9.

Fern Notes.—X.

Cheilanthes fibrillosa, Davenport, in Herb. Mass. Hort. Soc'y, 1884, and in Underwood, Our Native Ferns, 3d Ed. *C. lanuginosa*, Nutt., var. *fibrillosa*, Davenport, Fern Notes, VII., BULL. TORR. CLUB, Vol. XII., p. 21, 1885.

Some recent re-examinations of this fern in connection with Mr. Pringle's 827 from Mexico have led me to remove it altogether from *C. lanuginosa*, under which species it was first published as a variety, for the purpose of calling the attention of California botanists to its existence, and to restore it to specific rank.

Its history and description having already been fully published (*l. c.*), it seems unnecessary to more than briefly recall attention to its essential specific characters here. These are, primarily, in its creeping root-stocks, and secondarily, in the scale-like fibres mixed with its tomentum, as against the tufted root-stocks, and freedom from scale-like fibres in the tomentum of *C. lanuginosa*.

There still remains a reasonable probability that it may ultimately prove to be a form of *C. Parishii*, with the scales of the rachis reduced to mere fibres. But this is a point of which the satisfactory determination requires more specimens of the latter species than are now in existence, and until a re-discovery of that now rare fern supplies such material, it will be as well to consider the present one as a fairly good species.

LIST OF FERNS COLLECTED IN THE STATES OF MEXICO AND CHIHUAHUA, MEXICO, BY C. G. PRINGLE, DURING THE SEASONS OF 1886–87.

(The numbers are, as usual, those on Mr. Pringle's distribution tickets.)

No. 1445.—*Aspidium athyrioides*, Mart. & Gal., (*Nephrodium* *sphaerocarpum*, Hooker). Cool, shaded cliffs, Arroyo Ancho, Sierra Madre, October, 1887.

Specimens small or medium-sized, but answering Hooker's description very well, and agreeing with Schaffner's specimen in the Cambridge Herbarium. The species appears somewhat intermediate between our *A. spinulosum* and *A. patulum*, Swartz, and may be only one of the variable forms of the latter species. Mr. Pringle's specimens resemble some forms of *A. spinulosum* very much in general appearance, but lack the spinulose teeth to the lobes. The sori are remarkable for their great size and prominent involucres.

No. 831.—*Aspidium juglandifolium*, Kunze. Cool, damp cliffs, Mapula Mts., October, 1886.

No. 833.—*Asplenium Glenniei*, Baker. Deep, damp glen, Mapula Mts., November, 1886.

Specimens wonderfully proliferous, single fronds bearing from twenty to thirty tiny plantlets growing from buds situated in the sinus at the apex of the pinnæ (often also from their basal lobes) and frond. This character does not seem to have been noticed before, but appears to be natural to the species. On this point Mr. Pringle wrote: "I am inclined to regard the 'leaf propagation' of *Asplenium Glenniei* as natural to the species. It is the old fronds which put forth young plants in this way as they die. It was the rule among the plants gathered by me; though I damaged some of my specimens by pulling off the old ragged fronds before I detected their importance."

A re-examination of some of Mr. Lemmon's Arizona plants of this species shows the same character in them, though in a less marked degree, owing, probably, to the plants having been collected before the development of the buds had fairly begun. In view of this evidence it seems best not to recognize this character as a varietal one in this species, but to record it here as characteristic of the species itself, it being no less than the culmination of its season's growth, the annual fronds in this way providing for a special renewal before perishing.

No. 1444.—*Asplenium pumilum*, Swartz. Ledges, Arroyo Ancho, Sierra Madre, October, 1887.

A puzzling form, more compound than usual, running away from the type and, except in the deltoid sterile fronds, suggesting a mixture of the coarser forms of *A. Montanum* and *A. Bradleyi.*

No. 828.—*Cheilanthes lendigera*, Swartz. Shaded ledges and cool cliffs, Mapula Mts., October, 1886.

No. 827.—CHEILANTHES MEXICANA, n. sp.

Root-stock rhizomataceous, slender, wide-creeping, clothed with pale brown linear-lanceolate scales, and bearing loosely-scattered fronds, 3 to 7 in. or more tall; stipites 1½ to 3½ or 4 in. long, terete, dark or chestnut brown, slightly scaly at the base only, deciduously chaffy above; laminæ 1¾ to 3¾ or 4 in. long, 1 to 1¼ in. broad, tri-pinnate or through the basal pinnules of the lower pinnæ, quadripinnate; segments reniform with slightly crenate re-curved herbaceous margins, ultimate segments largest; both surfaces, as well as rachises, covered with coarse tomentum, whitish when young, becoming tawny or yellowish brown, and disappearing altogether from old and weather-beaten fronds.

Collected by C. G. Pringle on the verge of a high cliff near the summit of Povtrero Peak (Santa Eulalia Mts.), October, 1886. Alt. 7,300 ft.

This fern, notwithstanding its loveliness, is an unwelcome intruder, since it only adds one more to a series already sufficiently puzzling. I was for a long time in doubt whether it was really distinct from the California plant *C. fibrillosa.* The primary distinction upon which I have relied in keeping them apart is the structure of the root-stock, and the secondary, the absence from the Mexican plant of the peculiar fibres which give to the California one its specific name.

The two ferns resemble each other very much, and both resemble *C. lanuginosa* in the general appearance of their fronds, so that the difficulty of properly placing detached fronds of either, at times, will be readily understood.

For this reason, I have delayed publication as long as I could do so, with justice to Mr. Pringle, hoping that I would be able to accompany my notes with a series of figures, showing all the minor points of difference between these three ferns, and also of

C. Parishii, their nearest congener, and the only other American member of the group to which they belong. The condition of my eyes, however, has been such as to prevent my making the necessary microscopical analysis in the only time I have had to give to such work, and I am obliged to content myself with this general description for the present.

The same cause has delayed, and may prevent altogether, my intended elucidation of the *Myriophylla-Fendleri* section of *Cheilanthes*, for which I have ample material.

Nos. 829–1169.—*Cheilanthes myriophylla*, Desv., var. *elegans*, Hooker. Cold cliffs, Mts. near Chihuahua (829), October, 1886: Ledges, Chapultepec (1169), May, 1887.

Specimens unusually large and fine. It is doubtful if such beautiful specimens as some of those from the Chihuahua mountains were ever before collected in a state of nature. Fronds 16 inches tall, 3 inches broad, and sub-divided four and even five times into innumerable tiny pyriform segments, half hidden by the delicately ciliated elegant scales and tomentum remind one of the superb plants sometimes seen at exhibitions. It is not unlikely that similar specimens suggested to Desvaux his exceedingly appropriate name, and led Fournier to keep this fern apart from *C. myriophylla* as a distinct species. I have elsewhere given my reasons for adopting Hooker's disposition of the two ferns, but specimens such as these of Mr. Pringle justify retaining the present one as a good variety.

No. 826.—*Cheilanthes viscosa*, Link. Base of rocks, cool slopes, Mts. near Chihuahua, October, 1886.

No. 1446.—*Gymnogramme leptophylla*, Desv. Damp, mossy grots, cliffs of river cañon, near Guerrero, September, 1887.

Seedling plants of this exceedingly delicate little annual fern, but most of them quite well fruited.

No. 1179.—*Gymnogramme pilosa*, Mart. & Gal. Walls of cañons, Sierra Madre, October, 1887.

The striking external resemblance of the specimens to some of my *Phegopteris reptans* came very near misleading me, and I am indebted to the kindness of Prof. Eaton for setting me right.

No. 1441.—*Notholæna candida,* Hooker. Shaded ledges, cañons, Sierra Madre, October, 1887.

Specimens very large and fine, and unusually divided, the divisions of the pinnæ being again quite deeply pinnatifid.

No. 1440.—*Notholæna Palmeri,* Baker. Mossy ledges of La Bufa Mt., above Cusihuiriachic, August, 1887.

A very distinct ceraceous fern, with the usual white or yellowish powder, between *N. nivea* on the one hand and *N. Pringlei* on the other. The segments are much like those of *nivea,* for which the looser fronds might be mistaken, but the fronds are shaped more like *Pringlei,* only with the lower pinnæ much reduced, and with very short or scarcely any stalks.

No. 832.—*Pellæa marginata,* Baker. Cool, rocky slopes, Mapula Mts., October, 1886.

No. 1442.—*Pellæa marginata,* var. *pyramidalis,* Baker. Rocky slopes in shade, Sierra Madre, September, 1887.

A very distinct form, and peculiar in the long narrow drooping segments of the tall fertile fronds.

No. 1443.—*Pellæa Seemanni,* Hooker. Dry, rocky slopes, Sierra Madre, October, 1887.

A very handsome *Pellæa,* unlike any of our other species, and suggesting some of the more rigid forms of *Cheilanthes microphylla,* but with stout reddish stalks and rachises.

The specimens are somewhat more compound than the description calls for, but answer to it well enough otherwise, and agree with specimens at Cambridge. The determination is approved by Prof. Eaton, and there appears to be no other disposition to be made of the specimens.

No. 825.—*Polypodium lanceolatum,* L. Cold cliffs, Povtrero Peak, September, 1886.

An interesting dwarf *Polypodium,* with very large sori, and peltate scales on both surfaces, some specimens densely squamose.

No. 1168.—*Polypodium thysanolepis,* A. Br. Ledges, Chapultepec, May, 1887.

No. 834.—*Woodsia Mexicana,* Fée. Damp ledges near Chihuahua, September, 1886.

GEO. E. DAVENPORT.

MEDFORD, June 28, 1888.